ABS Education Services

CaSQ 6A

Name: _____

Date: _____

Parallel Box and Whisker Plots of Money Earned

How to Get a Random Sample from CensusAtSchool

Go to the CensusAtSchool Random Sampler to download a sample.X
Reference year: *(select year)*
Sample size: *At least 60 students so that you have two categories with at least twenty students*
Select questions: *Money received*
Location: *Select location* **Year level:** *(select a range of year levels)*

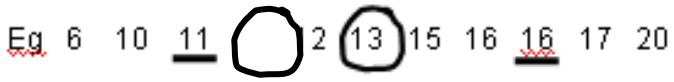
To protect privacy there is a rule built into the sampler that the requested sample size cannot exceed 10% entered.

Task:

1. From your random sample find the question on money earned. Choose 2 ways students earned or received money in the last week. If there are not at least 20 students in each group you need to choose another sample.

2. For each group sort the amount of money into ascending order and circle the median.

3. The middle of the lower half is called Q1 (first quartile) or QL (lower quartile). The middle of the upper half is called Q3 (third quartile) or QU (upper quartile). Underline the quartiles in each set of data.



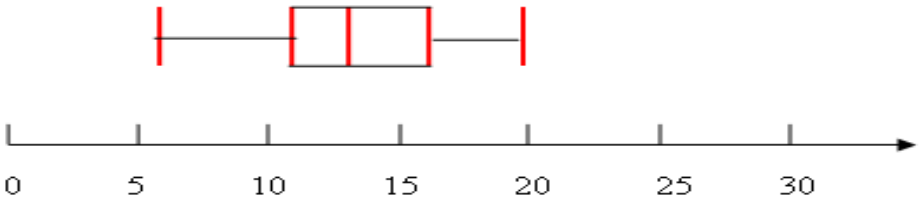
4. The IQR (inter quartile range) is the difference between Q3 and Q1. It is describes the spread of the middle half of the data. For each set of data find the IQR and the range.

Parallel box and whisker plots are used to compare numerical data from two different sources. They are scale diagrams.

5. To decide the length of the scale, find the overall minimum and maximum values from your sets combined. Choose an interval (1, 2, 5, 10, 20, etc)

that allows all values to be shown on this number line. Set up your number line allowing space above for your box and whisker plots.

6. For each set draw a short vertical line above the number line that corresponds to the min, Q1, med, Q3 and max values. Make a box by connecting the top of the second and fourth lines and the bottom of the second and third lines. Make the whisker by connecting the middle of the first and last lines to the middle of the box.



7. From which source did students receive the most money? Compare your two data sets, comment on the median, range and IQR.